

Table 1 : Measurement of Virtual Human Body's Area

Section of Area	Circumference (mm)	Cross Sectional Area (m ²)
Eye	550	0.02407
Nose	475	0.01795
Neck	328	0.00856
Chest	770	0.04718
Pit of the stomach	710	0.04012
Arm	242	0.00466
Wrist	170	0.00230
Trunk	660	0.03466
Thigh	450	0.01611
Knee	309	0.00760
Ankle	205	0.00334

Table 2 : Relationship between Electric Field Value and Induced Current Value

Section of Area	@115V/50Hz		@120V/60Hz	
	Electric Field Value (kV/m)	Induced Current (μ A)	Electric Field Value (kV/m)	Induced Current (μ A)
Top of the head	182	0.72	190	0.90
Front of the head	81	0.32	84	0.40
Back of the head	113	0.44	118	0.55
Side of the neck	16	0.06	16	0.08
Shoulder	37	0.15	38	0.18
Chest	19	0.08	20	0.10
Arm	29	0.11	30	0.14
Elbow	33	0.14	34	0.17
Back	52	0.20	54	0.25
Back of the hand	21	0.08	22	0.10
Coccyx	42	0.17	43	0.21
Knee	11	0.05	12	0.06
Patella	21	0.08	22	0.10
Tip of the foot	3.4	0.01	3.5	0.02
Bottom of the foot	348	1.37	363	1.72

Table 3: Applied Voltage and Induced Current

Applied voltage [kV]	Induced current Value			Induced Current Density (mA/m ²)		
	Head Portion (nose)	Neck Portion	Trunk Portion	Head Portion (nose)	Neck Portion	Trunk Portion
0	0	0	0	0.0	0.0	0.0
5	10	11	30	0.6	1.3	0.9
10	20	23	61	1.1	2.6	1.7
15	30	34	91	1.7	3.9	2.6
20	40	45	121	2.2	5.2	3.5
25	50	57	152	2.8	6.6	4.4
30	60	68	182	3.3	7.9	5.2

Table 4: Change in Induced Current according to the Location of the Head Portion Electrode

Head Portion Electrode – Top Portion of the Head	Distance (cm)	Induced Current Value	Induced Current Density
		(μ A)	(mA/m ²)
	4.3	50	5.8
	5.4	46	5.4
	6.3	43	5.0
	6.9	40	4.7
	8.3	39	4.5
	9	38	4.4
	9.9	35	4.1
	11	34	3.9
	12	34	3.9
	13	33	3.8
	14	31	3.7
	15	30	3.5
	16.1	30	3.5
	17.2	30	3.5

Table 5: Area, Induced Current Value, and Induced Current Density

Section of Area	Induced Current @115V/50Hz (μ A)	Induced Current Density @115V/50Hz (mA/m ²)
Eye	18	0.8
Nose	24	1.3
Neck	27	3.1
Chest	44	0.9
Pit of the stomach	65	1.6
Arm	8.6	1.8
Wrist	3.1	1.3
Trunk	73	2.1
Thigh	46	2.8
Knee	52	6.8
Ankle	58	17

Table 6: Area, Induced Current Value, and Induced Current Density

Section of Area	Induced Current @125V/60Hz (μ A)	Induced Current Density @120V/60Hz (mA/m ²)
Eye	23	0.9
Nose	30	1.7
Neck	34	3.9
Chest	55	1.2
Pit of the stomach	81	2.0
Arm	11	2.3
Wrist	3.9	1.7
Trunk	91	2.6
Thigh	57	3.6
Knee	64	8.5
Ankle	72	22

Formula 1

Induced Current;

$$I(60Hz) = I(50Hz) \times 60/50 \times 120/115$$

Formula 2

Induced Current Density;

$$J(60Hz) = J(50Hz) \times 60/50 \times 120/115$$

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